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HIGH SCHOOL AT ASHTABULA, OHIO
Frank L. Packard, Columbus, Ohio, Architect
The National Concrete Fireproofing Co., Cleveland, O., Engineers
and Contractors

School Construction with Denison Interlocking Tile

"Interlocking Tile" as used herein
refers to **AMCLAY INTERLOCKERS**.
Where "Interlocking Tile" appears
substitute **"AMCLAY INTERLOCKERS"**

The American Clay Products Co.
New York City

DENISON INTERLOCKING TILE

What It Is—What It Will Do

Denison Interlocking Tile is a hard burned, hollow clay tile of special design for bearing walls, curtain walls, foundations and partitions in all kinds of buildings.

Great Strength

Walls have great supporting strength because webs stand directly over each other. Walls have great lateral strength against roof thrusts, wind pressure, etc., because each tile is interlocked with those above and below, and because there are no through mortar joints.

Warm in Winter, Cool in Summer

Walls are non-conductors of heat and cold. The many dead air spaces in the wall and the absence of through mortar joints insulates the interior from the exterior in a way impossible in any other type of masonry wall.

Dry Walls

The mortar joints through which moisture and dampness penetrate the ordinary wall are interrupted by air pockets which effectually prevent passage of moisture.

Fireproof Walls

Denison Interlocking Tile meets the tremendous demand for fireproof walls and offers other equally important features which should give it consideration over every other fireproof material.

Used with Any Finish

Denison Interlocking Tile can be used with any type of exterior. It gives a firm dove-tailed surface for stucco; it bonds perfectly with face brick; it makes a dry, warm backing wall for stone—or it may be left exposed to the weather with no facing material whatever.

Builds Walls Any Thickness

One shape and size builds eight, twelve, sixteen inch—or any width of walls. There are no left-over sizes.

Lays Up Rapidly

The tile is handled by the mason *with one hand* without laying down his trowel. He has only one shape to handle, no matter what width wall he builds.

The tile equals seven common bricks, yet requires only one-third as much mortar.

Partitions always directly over each other—giving greatest possible supporting strength.

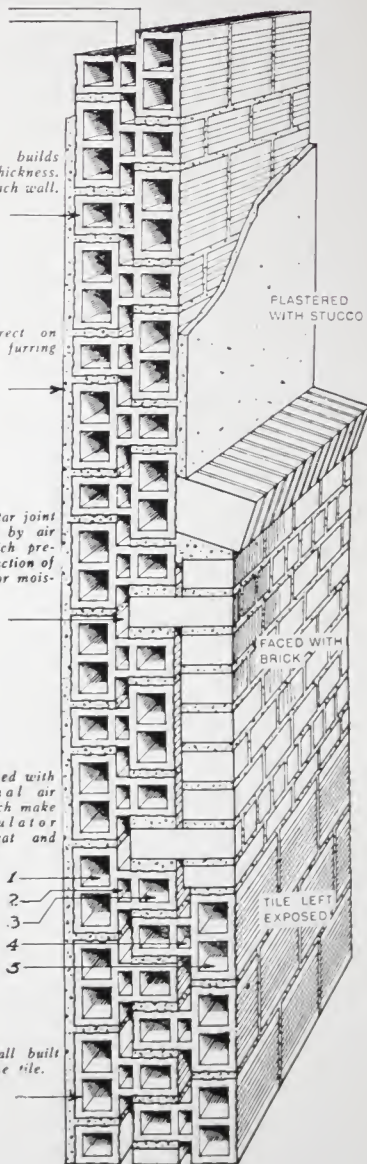
Same tile builds walls any thickness. This is 8-inch wall.

Plaster direct on tile—no furring necessary.

Every mortar joint interrupted by air pocket which prevents conduction of heat, cold or moisture.

Honeycombed with individual air spaces which make best insulator against heat and cold.

12-inch wall built of the same tile.





EAGLE SCHOOL, CLEVELAND, O.

F. S. Barnum, Architect

Bolton & Pratt Co., Contractors

Mr. Barnum says: "I am pleased to state that your Denison Interlocking Tile have been and are now being used in Cleveland schools. I am quite favorable to this construction for backing up the face brick work."

School Building Construction with Denison Interlocking Tile

Improvements in school house construction have been very marked in the last few years. The public health and welfare is so largely dependent upon the safety and sanitary conditions in the schools that municipalities and State Legislatures have enacted rules and regulations governing their construction.

The item of first importance is that the building shall be safe. The cost of a thoroughly fireproof building is in a great majority of cases, prohibitive and unnecessary, but it can be safe without being absolutely fireproof. If fireproof material is selected for all points where there is any likelihood of fire gaining access, such as exterior walls, roof covering and surroundings

of the heating plant, the chances for fire are exceedingly remote.

For the fireproof external and internal walls, Denison INTERLOCKING Tile is most valuable. Its texture being of high quality shale clay, vitreous and impervious to moisture, it can resist intense heat and will not disintegrate under the most severe conditions. The mortar joints are completely closed and flame heat cannot pass through the wall. This tile so completely isolates and insulates one room from another that a fire would be confined to the room in which it started. With the heating plant properly protected, or if possible having it adjoin the main building under its own roof, the building would be practically fireproof.



EATONVILLE SCHOOL GYMNASIUM, EATONVILLE, WASH.

Bullard & Hill, Tacoma, Architects.

Fix & O'Farrell, Contractors.

This building has Denison Interlocking Tile walls left exposed with no facing whatever. The colors of the wall are mottled red and brown, giving a very attractive effect.

A second point to consider is heating and ventilation. The school room containing as it does from 30 to 60 pupils must be supplied with a constantly changing supply of fresh air at uniform temperature. This is one of the most difficult problems involved in the construction of a school building, since this condition must be maintained irrespective of the temperature outside the building. It is known that the reason for the difference in temperature of 6 to 8 degrees between the floor level and the breathing zone, is due to wall-chill, and no matter how efficient the heating and ventilating system may be, the room temperature will be unbalanced unless the wall-chill can be overcome. With walls of Denison INTERLOCKING Tile this difficulty is successfully encountered. The insulation afforded by

the many hollow air cells within the wall prevents the cold from reaching the interior of the wall and the room temperature is unaffected.

And while Denison Interlocking Tile insures a warm wall, it also provides a dry wall. The moistureproof qualities of the tile, combined with the interrupted mortar joint and dead air spaces, insure a thoroughly dry wall, and the plaster can be applied directly to the grooved surface without furring. This too is a sanitary improvement, since it does away with the space between the furring and the wall, which space is an ideal nesting place for bugs, mice and vermin.

It would seem that a building built along these lines would be an ideal school, but there is still another feature which can be improved. The annoyance caused by the noise from one room being heard in another, as for example, one class having singing, while its neighbor is in study, is overcome by the use of Denison Tile for internal dividing walls. The dead air contained within the numerous cells of the tile, prevents the conduction of sound and jumble of noises from busy neighbors, which has always been such a nerve exhausting force, is overcome.



GRANITE DISTRICT SCHOOL HOUSE
Folsom, Cal.

Geo. C. Sellon, Architect
Alden W. Campbell, Associate
Wm. E. Keating, General Contractor
Henry Finnegan, Tile Contractor



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POLYTECHNIC HIGH SCHOOL GROUP San Bernardino, Cal.

Norman F. Marsh and Anthony Beimer, Architects
Cresmer Mnfg. Co., Contractors Geo. C. Congdon, Contractor

Nearly a quarter of a million Denison Interlocking Tile were used in this group of buildings, all of which are built of Denison Interlocking Tile with stucco exterior.

This group is typical of the Union High Schools now being built in California to accommodate high school students from several adjoining communities. (See page 10.)

1. Administration Building
2. Mechanics Building
3. Classics Building
4. Hall of Science



MT. UNION SCHOOL, ALLIANCE, OHIO

Wilbur T. Mills, Architect

Jas. O. Barnes, Contractor

Denison Interlocking Tile faced with tough texture brick



TWO SCHOOLS IN NORTH SACRAMENTO

C. C. Cuff, Architect

Birdsall & Lastra, Tile Contractors

Wall & Parker, Contractors



HOLLYWOOD UNION HIGH SCHOOL GYMNASIUM
Hollywood, Calif.

Norman F. Marsh, Architect

Huntsberger & Reed, Contractors



VAN NUYS HIGH SCHOOL

Allison & Allison, Architects

Fred Stahlhuth, Contractor

One view shows the building in course of construction, the 12 inch Denison Interlocking Tile walls were afterwards covered with stucco.



THOROLD PUBLIC SCHOOL
Thorold, Ont.

A. E. Nicholson, Architect

Wilson & Summers, Contractors



WELLAND PUBLIC SCHOOL
Welland, Ont.

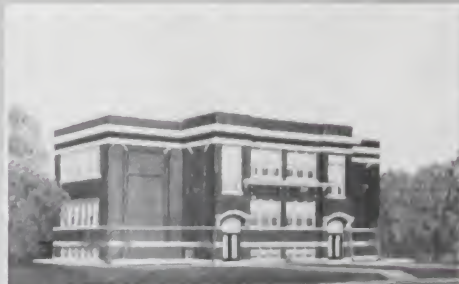
A. E. Nicholson, Architect

The secretary of the board says: "By using the tile instead of brick the Board effected a saving of \$2,195.00. Broken tile on the job did not make more than a good wheel barrow load."

The school buildings here illustrated indicate another very attractive feature. These buildings are all built of Denison Interlocking Tile. It will be observed that the tile admits of use with pressed brick facing, stucco exterior or plain exposed tile walls. And this permits of the selection of the types of construction best suited from the economical standpoint, as well as the artistic.

If a competent engineer or architect, familiar with all of the special requirements of school buildings, were to design a wall to meet these requirements, his study must result in a product very similar to the Denison INTERLOCKING Tile. It insures safe, sanitary, soundproof walls, which are so insulated as to maintain an equable temperature, and it is also decidedly economical both in first cost and in upkeep.

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LINCOLN HIGH SCHOOL, TACOMA, WASH.
Heath & Gave, Architects

This is a splendid example of modern school architecture, and was erected at a cost of half a million dollars.

All the bearing partitions and the walls of the gymnasium and other auxiliary buildings are of Denton Interlocking Tile.

Aside from the ordinary features found in schools, this one maintains all the utility branches, such as blacksmith and carpenter shops, sewing and cooking schools, complete power plant arranged for mechanical testing, and has a perfectly equipped gymnasium and swimming pool. The auditorium seats 1,200 people.

NORTHERN STATE NORMAL SCHOOL,
Marquette, Mich.

Charlton & Kuenzle, Architects
Herman E. Gundlach, Contractor

ST. JAMES SCHOOL,
Cleveland, O.

E. J. Schneider, Architect
G. W. Christford, Contractor

WASHINGTON SCHOOL,
Cape Girardeau, Mo.

W. E. Parlow, Architect
Vogelstein Bros., Contractors

BEVERLY HILLS SCHOOL,
Beverly Hills, Cal.

W. J. Dodd, Los Angeles, Cal., Architect
Barkley & Gould, Los Angeles, Cal.,
Contractors



ST. LEO'S GRAMMAR AND HIGH SCHOOL, TACOMA, WASH.
C. Frank Mahon, Architect

Mr. Mahon has the following to say regarding the use of Denison Interlocking Tile in this school building and in buildings in general:

"In the construction of the St. Leo's Grammar and High School, this city, I specified Denison Interlocking Tile, faced with brick for all outside walls, and solid tile for all masonry interior walls and partitions, using the same thickness of walls as used in solid brick construction.

"The walls on the school being 17 inches for the first and second floors and 12 inches for the third, this includes the brick facing.

"I have inspected the building during the last week and have not found a single

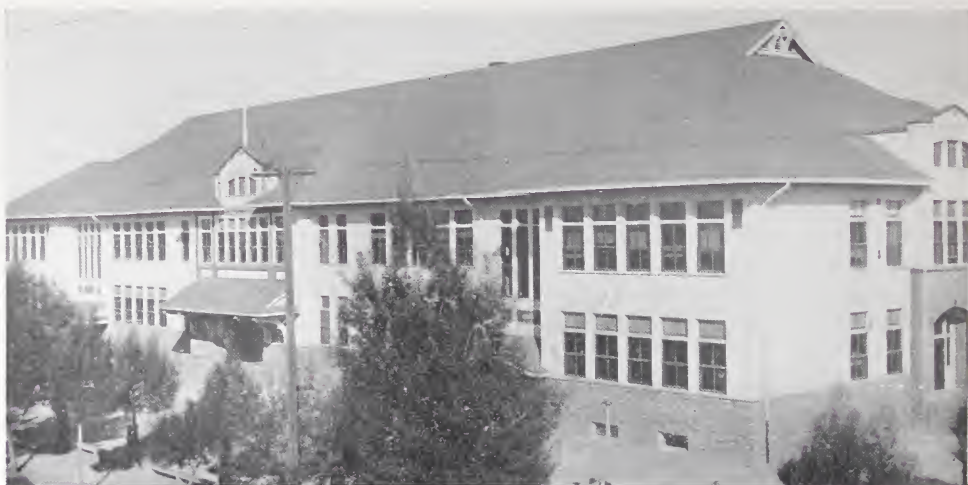
crack in any of the tile work, which pleases me very much.

"I find the tile to be more satisfactory than brick in more ways than one. First, it being cheaper than brick; second, walls can be built with more progress; third, tile does away with all furring of outside walls over eight inches thick, and fourth, a big saving can be made on heating plants where the tile is used, as it is a nonconductor of heat and cold to a great extent. This you can prove to be true by inquiring of any competent engineer, who designs heating plants.

"I recommend its use for residence work in preference to wood construction, as the difference in cost is very little."



W. S. BEAUPRE SCHOOL, AURORA, ILL.
Hewitt and Emerson, Peoria, Ill., Architects John MacKimmie, Aurora, Ill., Contractor



NORMANDIE AVE. GRAMMAR SCHOOL
Los Angeles, Cal.

Homer W. Glidden, Architect

John B. Dawson, Contractor

Here Denison Interlocking Tile walls are veneered with brick up to the first window sills and above that the walls are coated with stucco.

California School Architecture

In the larger cities school buildings costing one-half to one million dollars and running three to five and sometimes ten stories in height are no longer unusual. The value of the land on which they are placed is so great that the space is necessarily limited. The architectural problem of adapting a school building to this kind of site has been given a good deal of attention and with splendid results, considering the handicap under which designers must labor.

In at least one section of the country, however, architects have been able to work

out the school problem under conditions which are nearly ideal. The result has been buildings which are a distinct contribution to architecture and provide the environment the school child demands.

The Southwest is a rapidly growing country and the expansion is not confined to one city or community, but to an area of thousands of square miles; much of it is agricultural development. The growth of Los Angeles in ten years from a city of two hundred thousand to one of six hundred thousand has its parallel in nearly every



COMPTON UNION HIGH SCHOOL
Compton, Cal.

Tuttle & Angel, Architects

Lepper & Laisy, Contractors



AZUSA GRAMMAR SCHOOL
Azusa, Cal.

Allison & Allison, Architects

Hetzel Winget Construction Co., Contractors

city, town and village, and a concomitant has been the demand for educational facilities.

California is a richly productive state; per capita it is credited with being the richest in the Union. Commensurate with this wealth there is a pleasing public spirit of progressiveness and enthusiasm, and the demands of advancing education have met a ready response.

In California the solution has been the acquiring of large properties of five to twenty acres in size and the adoption of the plan, colleges for the most part have followed. Upon such tracts a campus is formed surrounded by a group of buildings, each designed for a specific purpose.

The large sites in most cases are acquired in the outskirts of the city where vacant land is comparatively cheap, and not so far out as to be inconvenient or inaccessible. Invariably it has been but a short time before the city has grown up to and beyond the school. An institutional group of this type is a commercial asset to any growing community and full advantage is taken of it.

The group plan when properly handled will permit additions to the buildings and

to the group without the necessity of committing architectural blunders and introducing structural wastefulness.

In the more recent buildings, a plan is outlined looking forward and providing for the future. In the group plan there is no necessity for the buildings being more than two stories in height. In some cases there have been groups composed of all small one-story buildings, ten to twelve in number, for a school of four hundred students. But this seems to be carrying the idea to the extreme, a natural mistake in any sudden and radical reform. The only good points to be advanced for the many buildings are that it gives students fresh air and exercises between classes, and in case of fire, less property loss. But to offset these there are so many points or features of disadvantages that it is more conservative to have fewer buildings and those of two stories in height.

For the city of ordinary size one high school group serves for all purposes, but when it comes to a city the size of Los Angeles there needs to be several groups for convenience and accessibility.

In Southern California where agriculture is carried on by most scientific methods, where products are of the greatest



ALTA LOMA SCHOOL
Los Angeles, Cal.

Robert M. Taylor, Architect

Engel Engstrum, Contractor

variety, where monetary returns per acre are perhaps greater than in any other part of the world, the study of agriculture is one of the strong and popular features of the school curriculum. Several acres of the school property are generally set aside for this purpose, where students carry on their studies in the most practical way. There is also the training field of ample dimensions with grand stand and gymnasium."

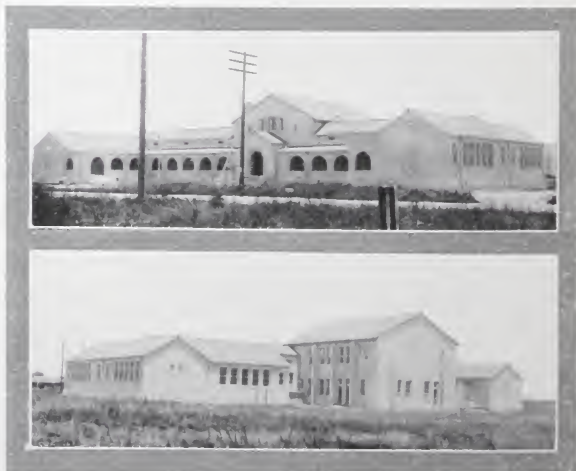
So much for the tendency in design. There is also a marked trend in the material selected for California school buildings. The photographs accompanying this article show work in every part of the state, and with one exception the buildings are all of Denison Interlocking Tile with stucco exterior.

Hollow tile and stucco long ago came into its own for use in other Californian structures. The color and texture of stucco seems particularly adapted to the California landscape and to the mission type of architecture. The hollow tile is certainly well suited for the walls. It is particularly valuable in one and

two story schools where the protection against heat is more necessary.

In addition to the practical advantages of this construction there is the consideration of "feeling" which is hard for the layman or even the architect to define. As you look at these schools with their clean, light cheerful walls you instinctively feel that here is the right material for the right purpose.

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FRONT AND REAR VIEW OF GARVEY AVENUE
SCHOOL

Ramona Acres, Alhambra, Cal.

Allison & Allison, Architects H. F. Roberts, Contractor

Tile furnished by the Los Angeles Denison Block Co., Los Angeles, Cal. Denison Interlocking Tile with stucco exterior used in this entire building.



THE ACADEMY OF THE SACRED HEART
Vancouver, B. C.

Chas. G. Badgley, Architect, Tacoma, Wash.

What Mr. Badgley has to say concerning this building and the merits of Denison Building Block in this class of construction will be of interest to every one engaged in building work.

"In regard to my use of the Denison Building Block, I am more convinced of their merits after using them on the Convent of the Sacred Heart in Vancouver, B. C., than I was before.

"In that building I used them as a backing to an 8" granite veneer in the four-story portion and as an interior wall in the five-story portion; also as backing to 8" veneer in an 80' 0" boiler stack.

"In the four-story portion there is a floor span of 28' 0" and I filled the block immediately, taking the bearing with concrete, also filling the blocks taking steel lintel bearings.

"I might add that I figured these wall thicknesses the same as if using common brick laid in cement mortar."

The choice of Denison Interlocking Tile, it will be noticed, does not limit the architect to any particular exterior treatment.

He can face the tile with stucco, with face brick, with stone or he may leave it exposed with no facing whatever, all of which methods give beautiful results.



JOHN A. JOHNSON SCHOOL, AURORA, MINN.

Anthony Puck, Duluth, Minn., Architect

Dauplaise Bros., Duluth, Minn., Contractors



HIGH SCHOOL, OSCEOLA, MO.
J. L. Heckenlively, Architect



RUSHVILLE SCHOOL, RUSHVILLE, IND.
J. T. Johnston & Co., Architects, Indianapolis Stephen Parcell, Contractor, Indianapolis
This is the third school which this firm of architects has erected this year, using Denison Interlocking Tile.



HAWTHORNE SCHOOL, TACOMA, WASH.
Heath & Gove, Architects Kneell Bros., Contractor

This school building is of unique design and very attractive. It is patterned after the German style of school, having separate class rooms for small classes and a large central study room. The walls throughout are built of Denison Interlocking Tile and finished attractively in stucco. The tile roof adds the finishing touch to the building.



SACRED HEART SCHOOL, DUBUQUE, IOWA

Fridolin J. Heer, Architect

Anton Zwack, Contractor

Denison Interlocking Tile used for backing all walls and also for 8 inch lining in the chimney



LAKE CITY SCHOOL, TACOMA, WASH.

Arnott Woodroffe, Architect

Denison Interlocking Tile faced with paving brick.

This school is one unit of a large number to be built.



GREENMAN SCHOOL, AURORA, ILL.

Worst and Shepardson, Aurora, Ill., Architects

Chas Armbruster & Son, Aurora, Ill.,
Contractors



FAIRMOUNT SCHOOL, WEST ORANGE, N. J.

Dillon, McLellan & Beadel, Architects, New York

Jno. Lowry, Jr., Builder, New York

Clark, McMullen & Riley, Consulting Heating Engineers



MOODY HEIGHTS SCHOOL, TAMPA, FLA.

F. A. Adams, Architect

F. A. Lopez, Contractor

Approximately 30,000 Denison Interlocking
Tile used. Tile faced with brick.



MADISON STREET SCHOOL, TAMPA, FLA.

Bonfey & Elliott, Architects

Hudnall & Bates, Contractors

33,000 tile used. Finished with face brick.



MADISON SCHOOL, YOUNGSTOWN, OHIO

Stanley & Scheibel, Youngstown, Ohio, Architects

Parrish Bros., Contractors